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Natural Resources Defense Council

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SEP 15 1997

September 10, 1997

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Re: Water Use Efficiency Common Program and "Soft Path" Solutions

Dear Lester:

The Environmental Water Caucus appreciated the opportunity to meet with you and your staff in late August. As we expressed at that meeting, the environmental community remains concerned about the shortcomings of the water use efficiency program, and the absence, to date, of a full analysis of "soft path" solutions to problems in the Bay/Delta. Until it addresses these shortcomings, CALFED has not met its obligations under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), which require consideration of a full range of alternatives, or under Section 404 of the Clean Water Act, which requires selection of the least environmentally damaging practicable alternative whenever a proposed project would impact aquatic ecosystems.

EWC has previously articulated the criteria that we will apply to any CALFED alternative. Those criteria include a water management hierarchy that gives preference to demand management, water recycling, and conjunctive use. Yet CALFED continues to include a lowest common denominator approach to these program elements, rather than identifying target levels of demand reduction, recycling, and conjunctive use, and developing programs to meet those targets. We were encouraged by your statements at last week's meeting that CALFED intends to conduct the necessary analyses to determine what level of demand reduction, recycling, and conjunctive use would make its non-structural alternative more robust. We encourage you to begin such analyses immediately and to develop a program that will achieve the necessary demand reductions.

Shortcomings of Current Approach

To make the EIS analysis meaningful, CALFED must configure each alternative, including the common programs, in such a way as to give each alternative the best possible chance at meeting the CALFED objectives. CALFED has clearly embraced this concept with regard to the ecosystem restoration common program, recognizing that in order for the ecosystem restoration program to be successful, it will have to be somewhat modified for each storage and conveyance alternative. We believe that this approach should also be applied to the other common programs, and in particular the water use efficiency program.

Just as CALFED would not limit analysis of an isolated facility to a large peripheral canal, or to the chain of lakes option, (both of which are widely perceived as likely to fail to meet certain of the CALFED solution principles) similarly by failing to include with Alternative 1 an aggressive program to reduce diversions, CALFED has not made this legitimate alternative as robust as possible. CALFED should conduct the necessary analyses and modeling to determine what level of demand reduction would be necessary, along with a more expansive ecosystem restoration program, in order to meet the level of ecosystem protection described in the comments of The Bay Institute (December 23, 1996), EDF (January 27, 1997), and EPA (January, 1997) on the operating criteria, as well as the previously submitted comments of the Environmental Water Caucus on the ecosystem restoration common program. Developing an efficiency program without these demand reduction targets renders the efficiency program a cosmetic feature, rather than a central approach to meeting CALFED objectives.

While reducing diversions throughout the Bay/Delta ecosystem will provide critical freshwater flows and other environmental benefits, reducing Delta exports is particularly critical to the ecosystem. As a placeholder, we can assume that it would be necessary to reduce pumping from the Delta by the same amount that it would be reduced by the smallest isolated facility under consideration. It is estimated that this would require a 3 million acre-feet reduction in exports. A land retirement/water rights acquisition program that acquired water rights on 400,000-600,000 acres of land could generate approximately 1 - 1.5 million AF. A water reclamation program could generate an additional 1 million AF south of the Delta. A stronger agricultural water conservation program could generate another 500,000 AF south of the Delta. Associated with all of these efforts would be additional savings and benefits in the form of reduced energy consumption, improved water quality, and reduced depletions and entrainment.

A primary problem not yet adequately addressed in Alternative 1 is fish entrainment at the pumps. To address this problem while retaining the current conveyance system the alternative must provide the ability to shift the temporal and volumetric patterns of pumping. At least two separate versions of this alternative should be evaluated. The first should look at a straight demand reduction scenario. The second should combine demand reduction with south of delta storage. The freed up pumping capacity would allow the system to move water into a more aggressive conjunctive use program, or potentially into new offstream storage, while still turning off the pumps during ecologically sensitive periods.

CALFED could also include a variation of Alternative 1 that specifies the amount that diversions will be reduced, allocates the reductions according to some appropriate initial formula, and then allows users to adjust to the reductions in the most cost-effective manner through voluntary market-based transfers.

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Program Specifics

Land Retirement/Water Acquisition

More than 400,000 acres of farmland are forecast to go out of production by 2040 due to urban sprawl. Under some scenarios that number is over 1 million acres. The San Joaquin Valley Drainage Program estimated that by 2040, 460,000 acres were likely to go out of production due to salinization if drainage problems were not addressed. A land retirement/water acquisition program, if done right, can help prevent urban sprawl and can help create buffer zones of open space between urban and agricultural areas, while also addressing problems related to agricultural drainage. To this end, CALFED should develop a targeted water rights acquisition program that will "buy down" some of the demands on the system and dedicate that water to supplement "baseline" instream flows and other aquatic ecosystem needs.

Agricultural Water Conservation

A study done by the Natural Heritage Institute indicated that if all western San Joaquin Valley CVP and SWP users reduced their water use to 2.5 af/acre, there would be potential water savings of 671,000 AF. (NHI, 1990) The report noted that the calculated surplus is from CVP and SWP surface supplies only and does not account for any use of other supplemental water. If local supplies contribute as little as 10% additional water, the average water use rate, and corresponding potential savings is actually significantly higher. While we understand that only a portion of this water may be cost-effectively conserved, it does indicate that substantial savings are possible.

To achieve these savings, the CALFED agricultural water use efficiency program must be strengthened by:

1) expanding the list of measures that are included in the program
2) refining the analysis methodology that will be applied to those measures
3) including meaningful enforcement mechanisms to assure that the measures which pass the analysis are actually implemented
4) establish target levels of implementation, similar to the targets being established for the ecosystem restoration program. For example, 1 million acres converted to micro-irrigation; average irrigation efficiency increased by 5% statewide.

List of Measures

There has been ongoing controversy about the inclusion of water measurement and volumetric pricing as Best Management Practices. These practices are the foundation of efficient water management. A measurement performance standard of +/-6% accuracy is included in the CVPIA conservation criteria, which already apply to all CVP water users and now should be more broadly required through CALFED.

CALFED should also target on-farm water use through an expanded and funded mobile lab program. This is the equivalent of the audit programs included in the Urban MOU, and would allow for site specific analysis of best management practices. Districts should be

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required to offer mobile irrigation lab services and to complete a certain number of site visits each year. Measures identified as cost-effective by the mobile irrigation labs should be implemented, and follow-up evaluations should be done to confirm water savings. These mobile irrigation lab programs are popular and effective, but their funding has been dramatically cut in recent years.

Analysis Methodology

One of the main problems with using a standard cost-benefit analysis for agricultural water conservation is that the water price is subsidized and the results of the cost-benefit analysis are therefore skewed in that many measures that are cost-effective from a societal perspective will not pass the cost-benefit test. There are several steps that CALFED could use to address this shortcoming.

- First, CALFED should require use of a modified methodology that establishes a preset marginal/avoided cost that reflects the true cost of water deliveries. There are a variety of options for setting this cost, including the market price for water, or the cost of water from any new storage that CALFED is developing.

- Second, CALFED should incorporate environmental externalities into the cost-benefit analysis.

- Third, CALFED should include a cost-sharing program for conservation measures, and districts should be required to use only their share of the costs when calculating cost-benefit ratios.

Water Reclamation

CALFED has not yet adequately explored the potential of water recycling to contribute to the Bay/Delta solution. Recycled water should be considered on par with traditional engineering projects as a new water supply option, and as a replacement source for water dedicated to the environment.

CALFED should identify the maximum feasible level of water recycling by region and should include in the CALFED program the technical and financial resources necessary to achieve those levels. Instead, CALFED's water recycling element repackages water recycling projects that have already been proposed. By relying on off-the-shelf projects, CALFED has failed to explore the additional potential that water recycling offers. For example, according to the Bay Area Regional Water Recycling Project existing Master Plans of Bay Area agencies identify 200,000 acre-feet of water recycling planned by the year 2020. However, total wastewater flows in the region are estimated to reach 650,000 acre-feet by 2020, and it is technically feasible to recycle almost all of that. In Southern California the potential is, of course, many times greater.

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While CALFED treats water recycling as an issue to be addressed at the local level, regional approaches will be necessary to maximize recycling. Agencies that do not face local shortages may not have a local incentive to explore water recycling. As part of a regional approach, these agencies could be given incentives to substitute recycled water for some of their Delta water supplies.

Conclusion

Throughout the CALFED process, the environmental community has continually voiced our concerns about the inadequacies of CALFED's water use efficiency program. We believe a strong water use efficiency element can and should be a centerpiece of the CALFED program. As we approach the date of release for the Draft EIS, our concerns are heightened by our strong belief that failure to adequately consider demand-side approaches could undermine the legal credibility of the process. We urge CALFED to fulfill its obligations to the public by fully exploring more environmentally sensitive alternatives to addressing conflicts in the Delta.

On behalf of the undersigned organizations,

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